

Self-Control: A Behavioristic Excursion into the Lion's Den¹

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The concept of "self-control," until recently embedded in intrapsychic personality theories and banished from strict behavioral accounts of human activity, is considered from the perspective of a closed-loop learning paradigm. In considering self-regulatory and self-control behavior, an attempt is made (1) to extricate these concepts from the realm of philosophical debate on the image of man, (2) to point to their growing relevance in the context of rapidly changing environments, (3) to provide behavioral definitions and a tentative and testable process model, and (4) to outline their clinical (therapeutic) implications. The current conceptualization emphasizes (a) the contractual elements in self-control, (b) the critical importance of insuring the link between intentions (often of a verbal variety) and behavioral execution, and (c) the interdependence of external and internal controlling variables. In a larger context, the paper seeks to show how man's "self-reflectiveness" can be incorporated within an empirically based behavior theory. Suggestions for research are presented.

Historically, clinical psychology and personality theory have been oriented around conceptions of internal causation; the origins of action being localized, first within the *soul*, then the *psyche*, the *instincts*, and the *mind*. In contemporary theory, the *self* has been viewed as the pilot of individual behavior. These internal agencies have been characterized as multileveled, hierarchically organized structures, relatively free of the influence of situational determinants (Levy, 1970; Maddi, 1968). Self-determinism and the doctrine of free will and individual responsibility are direct descendants of the internal causation hypothesis. An active, directive, and aware mental apparatus knows the environment, represents it symbolically, and relates to it dispositionally (e.g., Heider, 1958). By contrast, experimental psychologists from Watson (1919) to Skinner (1971) have advocated an environmentalist position. They have questioned the intrapsychic view, arguing that a person's momentary behavior

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is best understood as a result of the continuously acting influence of setting characteristics, learning history, and transient organismic states rather than of the inferred actions of indwelling agents. Within clinical psychology, the latter conceptual position characterizes the foundation of the behavior therapies.

At the core of the view proposed here is a recognition of the existence of a subtle dualism that presumes the dignity and inherent morality of man to *precede* his social development, and to give order to cultural and individual growth. Almost 50 years ago, Kantor (1924) argued eloquently against the use in psychology of metaphysical abstractions, which find extreme representations in the "bodyless mind" of the psychists and the "mindless body" of the mechanists. His analysis retains its timeliness.

A scientific view need not deny the importance of self-awareness, individual responsibility, and purposefulness of one's life. However, such a view maintains that the behavioral events to which these terms sometimes refer are the *product* of acculturation, the response to the existing social order and social demands. Thus, what are commonly labeled as man's purposiveness, self-actualization or morality are not innate characteristics of a newborn infant. They are learned behaviors maintained over generations because of their utility in maintaining the prescribed relationship between an individual and his social unit. It is conceivable that the total social repertoire of persons, their self-attitudes, perceptions of the "nature" of man and the essential purposes of life can be altered by appropriate arrangement of the cultural milieu (cf., Skinner, 1971).

PURPOSE

This paper is divided into four parts. (1) We briefly discuss some divergent views of the image of man, especially as related to the concept of self, and the variables that are presumed to control man's behavior. (2) We attempt to show why a reexamination of the relative contributions of environmental and individual influences is especially relevant in the context of current rapid social and technological changes. (3) We attempt to show how a critical aspect of the self-reflective dimension of man, that of self-control, can be treated with the aid of a closed-loop learning model and how this viewpoint can affect further research. This analysis also questions the trait conception of self-control and suggests a probabilistic approach that deals with assessment of controlling variables of multiply determined phenomena. It proposes that self-control phenomena (involving behaviors that have conflicting outcomes) can be analyzed as a function of the integrated actions of (a) current environmental variables, and (b) self-generated variables that have been brought into a person's repertoire by earlier training. (4) The proposed point of view is

extended to suggest some specific applications for the practice of behavior therapy.

SOURCES OF CONTROL

The concept of *self* is found in the early writings of the Greek philosophers, and to this day refers to a consistent, unitary structure or force that differentiates individuals and guides their thought and action. Formal theoretical statements, such as those of James, Freud, Sullivan, Allport and others, represent the contemporary view of the processes by which man's self-awareness influences his social adaptation.

On the other hand, for the environmentalist such terms as *self*, *ego*, or *intrapsychic structure* represent mental way stations, superfluous by-products of a labeling process. Environmentalists assert that the scientific analysis of behavior can only be impeded by systems that emphasize the inaccessible and the complex. Skinner (1953, 1971), Lundin (1969), and McGinnies (1970) are among many writers who have attempted to cover the broad range of human events from a behavioral perspective. For the strict behaviorist, control is a matter of specification of relevant antecedents and consequences of a given behavior. Thus, Skinner argues: "When all relevant variables have been arranged, an organism will or will not respond. If it does not, it cannot. If it can, it will." (1953, p. 122).

Predictably, extreme positions elicit extreme counter-arguments. Although it has been repeatedly asserted that the term "control" in psychological terminology is equivalent to such "neutral" terms as determine, titrate, or order, its negative overtones of restraint, inhibition, and restrictive regulation have not been omitted by contemporary critics of behavioral views. Recently, Portes (1971) has taken up the behaviorist challenge on logical and epistemological grounds. His major criticisms are that:

There are two crucial elements missing in the behavioristic image of man: (a) a systematic understanding of meanings, and (b) an explicit recognition of self-reflexiveness in human beings (page 306).

The first point addresses itself to the understanding of the genesis and organization of language, an area that has puzzled men of all theoretical persuasions. The second point suggests that the contemporary behaviorist, in blissful ignorance, operates on the assumption that man is a linear, input-output system, a simple mechanistic device that is not affected by its own output.

Recent efforts to expand the behavioristic model have included the substantive aspects of phenomena that have traditionally been emphasized by nonbehavioral theories. Behavioral analysis and research methods have

been applied to the phenomena *in vivo* or in laboratory analogies. For example, the areas of observational learning, of aggression, of group interaction, of achievement, of thinking and perceiving have been increasingly drawn into descriptions of the psychological processes from a behavioral or social learning framework.

The cognitivist critique of the behavioral image of man (e.g., Breger, 1969) is constructive only insofar as it points to the dangers of philosophical narrowness that fosters a *rejection of events* (phenomena). Most critics, however, tend to confuse contemporary *behavioristics* (Skinner, 1953, 1969) with Watsonian behaviorism (1919). While the former emphasizes functional relationships between measurable events, the latter (essentially a surgical solution to the mind-body problem) tends to rule out psychological phenomena from investigation when the methodology runs into difficulty (e.g., the measurability of "private events"). Thus, in Watsonian behaviorism the person is viewed as a behaving organism *minus* mind, rather than simply as a behaving, interacting organism. Skinner (1971) rejects concepts such as freedom, dignity, responsibility and autonomy along with other mentalistic myths as being unnecessary for adequately describing and/or improving the conditions of human life. But by concentrating on life as it *ought to be*, Skinner minimizes current critical social realities in his recent book. Freedom may be a myth, but wars are fought and lives lost because of this fanciful *attribution*. It behooves the behaviorist, then, to analyze the functional significance of (i.e., the momentous results of the beliefs in) this construct in contemporary society, even while questioning its independent existence. Similarly, those who hold an intrapsychic image of man, and deride the token economy approach in the treatment of psychotic or retarded patients as dehumanizing and simplistic, should also recognize that this technique has demonstrated its utility in helping to change these patients' behavior toward more "human" status (cf., Ayllon & Azrin, 1968; Weisberg, 1971).

The issue of control has centered about the definition of a vague boundary between acceptable and unacceptable social (external) influences on individual behavior. It is asserted that our society should allow the individual to express himself and to maximize his range of choices, while minimizing the negative consequences of individual expression as it encroaches on the "freedom" of others and the stability of the social order. But, what is the proper measure of excessive control? Some object only to the pervasiveness of control, while others reject altogether the use of some means of control for any purpose (cf., discussions in London, 1969; Delgado, 1970; Ehrlich, 1968; Ferkiss, 1969; Taylor, 1968). Those who deplore control by social agencies have usually appealed to an inner sense of righteousness (morality, conscience, "superego") to provide for regu-

lation from within. This interiorized sense of right and the structures which support it are believed to act as a safeguard against undue or unnatural constraint from without (Fromm, 1941).

From a radical perspective it is possible to visualize a society in which environmental control (supplemented by genetic and pharmacological engineering) would extend over most of a person's behavior. However, three factors would appear to mitigate against such total control: the ultimate biological separateness of organisms, the continuity of their unique histories, and the inaccessibility of patterned "within-the-skin" stimuli and responses to the observation of others. Some of the current influences on behavior thus might be best sorted out into those that originate in the immediate environment and those that stem from a person's application of previously learned techniques of behavior control. The remaining problem lies in the fact that even clear external controls are frequently inconsistent, thus setting up both positive and aversive consequences for the same behavior. The cigarette smoker is reassured by tobacco company ads, but frightened by American Cancer Society pamphlets. Restaurants and weight-watcher clubs vie for control of the obese person. And guardians of morality and pornographers attempt to hold out diametrically opposed reinforcers for exposure to sexual material. A behavioral theorist would speculate that these conflicting external controlling stimuli, acting at different occasions and over a long time, create the same problems that "self-control" is intended to solve.

CULTURAL IMPLICATIONS OF SELF-CONTROL

The relative success of behavioral approaches in relating action to external variables has overshadowed the attempts to explicate individual behavior that is relatively independent of momentary environmental influences. Personality theorists who have used introspective analysis as the basic datum for their constructions have also obfuscated this area by contaminating the method with the content (e.g., in interviews or some personality tests). While psychologists have related self-regulation either to the axiomatic statements in their image of man as inherently self-directing or have ignored this feature of men altogether, social anthropologists and futurologists have dealt more directly with the concept in a manner that suggests the need for its reappraisal in psychology. Consistent with the speculations and prophecies of futurologists (e.g., Ferkiss, 1969; Taylor, 1968; Toffler, 1970; and many others) it is believed that the rapid rate of changes in life settings associated with sociological, cultural and technological innovations and experimentation call for a reconsideration of the role that individual self-determination can play. The transience of inter-

personal relationships, of the dominant social influences and of the social demands in the late twentieth century western world and the probability of an increasing rate of such changes calls for reconsideration of the entire concept of adjustment and the relevance of self-regulation as a process that orders individual behavior in the social surrounding. Personality theories that presume a central role for enduring traits, structures, individual responsibility and free choice may have appeared less inadequate for social situations in which contextual determinants were quite constant. The increasing change pattern calls for a more realistic recognition of the critical importance of the situation-person *interaction* in the understanding of individual behavior. In fact, it raises the possibility that the self, as a critical organization of individual behaviors, is only a transitory behavioral organization, subject to alteration by the large changes in models, available satisfactions, environmental demands and other features associated with our rapid cultural changes (cf., Gergen, 1969). Thus, for the self, as for so many other physical and psychological phenomena, perhaps the statement may be appropriate that nothing is as constant as change itself.

In the personality assessment domain, a similar argument has been raised by Mischel (1968) and others who reject approaches that emphasize the importance and persistence of enduring behavioral characteristics. In clinical psychology, practitioners find that it is no longer necessary to view adjustment of a patient to his environment as the only desirable end state. Rather, that it is also possible to help patients to choose among environments that match their behavioral repertoire and their motivational history. In brief, it is assumed that there is under way a decreasing consistency of behavior among socializing agents, and an increasing availability of models (e.g., via television, physical mobility, expanded knowledge, and extended exposure to different life styles and significant people). These factors have led to a loosening both of specific and uniform institutional controls and of informal customs and traditional modes of behavioral influence. As the latter are often cited as the most salient influence on individual conduct (e.g., Nadel, 1953) and as customs seem to be changing most rapidly, the need for individual standard setting is highlighted. As western man is now exposed to many diverse environments, greater attention must be given to the conditions that permit a person to develop criteria for his own conduct that generalize across varied settings. Bennis (1968) has captured the essence of this view in a recent essay on our changing society:

With all the mobility, chronic churning and unconnectedness we envisage, it will become more and more important to develop some permanent or abiding commitment . . . This means that as general commitments become diffused or modified, a greater

fidelity to something or someone will be necessary to make us more fully human. For some the commitment may be derived from marriage . . . for others a profession, work, the church, or some group may emerge as a source of fidelity. Ultimately, the world will require us to rely most heavily on our own resources (p. 128).

A behavioral view suggests that, if at least some individual consistency is required for adaptive living, then the increased variability in situations will require more emphasis on and training in the individual's development of self-generated motivations and standards and means for maintaining such consistency across situations.² Implicit in these expectations is the necessity for working toward new values and rules for individual responsibility to replace the current emphasis on conformity to institutionally established rules and to modify our current yardsticks for judging self-regulation as adequate or deviant.³ Many clinicians have already encountered indications of this change in the increase of problems of "impulse control," earlier regarded as signs of constitutionally determined deficiencies in self-control. The high frequency shoplifting, violent aggressive behaviors, or failures to tolerate aversive conditions for even brief time spans demand a reexamination of the origin of these acts.

TOWARD A CONCEPTUAL ANALYSIS

Reinforcement contingencies provided by social and natural events continuously modify a person's behavior. At times, conflicts arise, involving the presence of two responses with near equal consequences, or one response with both positive and aversive outcomes. Extensive studies of these phenomena (Dollard & Miller, 1950; Miller, 1944, 1959) have suggested numerous techniques for conflict-resolution. Among them are (1) altering reinforcing magnitude for one of the alternatives or the single conflictful response; (2) punishment; (3) removal of all discriminative stimuli. Given the inconsistencies of reinforcing practices in our culture and the impracticality of continuous monitoring by external agents, persons are expected to develop techniques for initiating controlling responses on their own. Generalized reinforcement is given for such

² Of course, social control and technological programming also offer the alternative of increasing homogeneity by genetic engineering and environmental restrictions via education, mass media and biochemical or physical coercion.

³ We are not suggesting that self-regulatory and self-control efforts are the *only* means of adaptation to the "accelerative thrust" of changing environments that men *can* or *should* employ. We will have to learn to tolerate change, to be more flexible, while at the same time, seeking to "tame" the runaway technology that threatens our ability to cope (cf., Toffler, 1970, Ch. 17 ff).

achievement throughout a child's socialization. These observations have led behavioral writers to postulate that a person can be taught to control the variables that alter his own behavior and recent research has supported this assumption (e.g., Bem, 1967; Hartig & Kanfer, 1972; Meichenbaum & Goodman, 1969a,b, 1971). Nevertheless, some extreme environmentalists have maintained that self-control "really refers to certain forms of environmental control of behavior" (Rachlin, 1970, p. 185). What remains to be explained to make the transition from environmental to self-control is the process by which an individual breaks the chain of behaviors at a particular point, initiates controlling responses (learned earlier in similar situations) and maintains the new response chain, even though the controlled behavior has a high probability of occurrence and immediately reinforcing consequences. For pragmatic reasons, the ubiquity of self-generated controlling behavior and its "portability" makes it useful to distinguish it from cases in which behavior is directly dependent on external agents.

Alpha- and beta-regulation. For expository purposes (and to avoid the established connotations of the term *self*), the label *alpha* will be assigned to that portion of multiple sources of behavior control that depend on the direct influence of the external environment, while the term *beta* will signify the moderating psychological processes that supplement a simple input-output relationship on the basis of the person's past history, biological constitution, and his pattern of generating "internal" stimulatory processes (including sensory and proprioceptive feedbacks, discrimination, and response-produced stimulation). The degree to which internal stimulation and self-generated reinforcing events take on importance depends upon the magnitude and specificity of these variables, and on the richness and complexity of the person's available covert behaviors as they moderate and interact with the effects and directions of external controlling events. Further, since verbal, imaginal, and other forms of "inner" behaviors are postulated to have been established originally by external contingencies, these behaviors are presumed to follow the same rules of acquisition, maintenance and extinction as publicly accessible behaviors. Finally, it is assumed that these behaviors can be trained by systematic external regulation so as to provide the most effective augmentation of the behavioral input-output loop, constituting that which has been called the self-directing or self-reflective function of man.

In suggesting the use of response-centered cybernetic concepts we are borrowing a paradigm which has been employed fruitfully in other sciences and disciplines and whose psychological implications are increasingly evident in experimental areas of psychology (e.g., Adams,

1971; Miller, Gallanter, & Pribram, 1960) in clinical psychology (Phillips & Wiener, 1966; Yates, 1970) and social learning (Miller, 1959). However, the system-analogy is not used to imply any further simile between man and machine, nor to reflect on the basic behavior units of which the system is composed.

Beta-regulation. The concept of self- (now termed beta-) regulation is concerned with the processes by which an individual alters or maintains his behavioral chain in the absence of immediate external supports. Recently, a detailed componential analysis of this process has been outlined (Kanfer, 1971). In this approach beta-control is viewed as a special case of beta-regulation (Kanfer, 1970) in which the goal is to alter the probability of executing a final response in the chain. It must be noted that individuals never cease to be affected by alpha variables. It is only the human potential for supplementing these effects that makes analysis of beta variables so critical. Recognition of these as "inner-life" determinants has been the hallmark of dynamic and phenomenological psychologies. In order to present our model of beta-control, we begin with a brief review of the three stage model of beta-regulation from which it is derived.

When conditions are such that behavior chains are not run off smoothly, (for example, when a choice point is reached or an external event interrupts and refocuses attention, or if the activation level suddenly changes) *self-monitoring* is hypothesized to go into operation. Utilizing the input from the external environment as well as response-produced cues (verbal-symbolic, proprioceptive, or autonomic), the person is in a position to *self-evaluate*, i.e., to make a discrimination or judgment about the adequacy of his performance relative to a subjectively held *standard* or comparison criterion. Within the limits of an individual's social learning history and current situational factors, the judgment serves as an S^D either for positive self-reinforcement ($SR+$), if the outcome of the comparison is favorable, or for self-presented aversive stimulation ($SR-$), if the comparison is unfavorable. Thus, behavior is maintained or altered by self-reinforcements, relatively independent of current alpha variables. The foregoing closed-loop model is shown in Fig. 1.

In this model, beta-control is viewed as a process that involves the introduction by the individual of supplementary contingencies designed to enable a person to alter an ongoing behavioral chain. In order to make the unexpected happen, to act counter to the immediate contingencies, to move from automatization to de-automatization of behavior, a change in one pivotal regulatory operation in the beta-regulation model is required. Namely, the individual must set up an *ad hoc* performance standard to guide the direction of his behavior. We call this central element

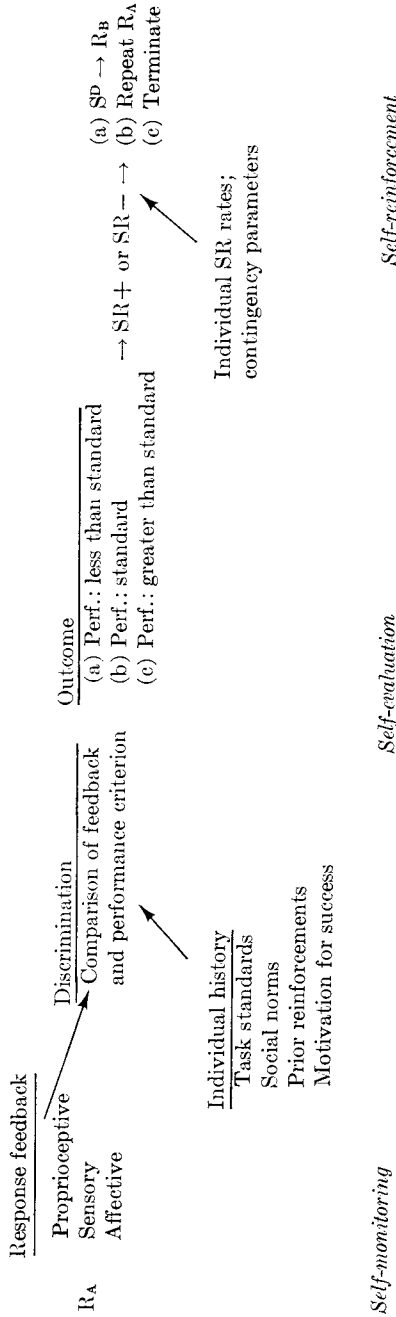


FIG. 1. A working model of self-regulation.

a *performance promise* or *contract*.⁴ In beta-control situations the individual is hypothesized to make a contract, i.e., to specify performance criteria. This process can be covert, or overtly made in interaction with another person. The antecedents of beta-control (self-control) lie in the discrepancy between self-observation and the performance promise, followed by self-reinforcement aimed at reducing the discrepancy.

THE SCOPE AND LIMITS OF BETA-CONTROL

Before proceeding with a discussion of beta-control contracts in therapy, further definitional elaboration of the concept is needed. Most descriptions of self-control have been anchored in the judgment of observers who note (a) sudden large changes in the probability of a behavior, or (b) responses that are infrequently made under the given conditions. Lacking information about variables effecting these changes or controlling the behavior, the term (self-control) has often been applied indiscriminately in the labeling of insufficiently analyzed events. Fundamentally, beta-control always involves a situation in which it is possible to engage in behaviors that are judged to have a high probability (on the basis of the external antecedents and available reinforcers), but instead a response of lower probability occurs. Typically, we are concerned with *increasing* the probability of approach to or tolerance of an *immediately aversive* situation in order to achieve a *long-range positive outcome* (e.g., presenting phobic clients with feared objects, or keeping an uninterested student in school); or *decreasing* the probability of approaching an *immediately rewarding* situation in order to avoid long-term negative outcomes (e.g., inhibiting the alcoholic's drinking, the smoker's smoking, the obese individual's eating).

When the response to-be-controlled (e.g., smoking, drinking, tolerating a delay, etc.) loses its pleasurable or aversive consequences, then beta-control is no longer a relevant explanatory mechanism. Also, if the situation compels a change in the probability of a particular response, then beta-control is not involved. If, for example, a person remains in the presence of an aversive stimulus because there is no escape, or if he fails to partake of reward because the consummatory response also brings on strong situational punishment, he has *not*, at that moment, executed beta-control. Once an obese person has put a lock on the refrigerator or the

⁴The use of the term "contract" should not be construed to imply more than a convenient analogy. Its purpose is to facilitate a rudimentary conceptual organization and hypothesis generation by borrowing from an area that has already integrated the relationships between standards, performance criteria and payoff conditions for many social practices.

alcoholic mixed an emetic in his drink, alpha variables are sufficient to account for the resulting behavior.

The utility of the conceptualization of beta-control can be demonstrated when the component processes proposed are deliberately altered in experimentally controlled situations, (i.e., those in which all external variables are held constant), and response changes are observed. Empirical evidence for the basic beta-regulation model has been summarized elsewhere (Bandura, 1969; Kanfer, 1971).

In addition, a highly probable but undesirable response could be countered by providing the person an even more probable response that is socially and personally acceptable. Thus, a smoker might be influenced to give up tobacco if (assuming he is also sexually oriented) sexual experiences would be offered in all situations that have previously led to smoking. This solution is obviously inadequate, especially if the response to be eliminated is at high strength and has a long history of occurrence in many settings. Also current extinction theories do not agree that opportunity for a stronger (competing) response would necessarily reduce the frequency of a lesser response once the now more potent reinforcer (e.g., the sexual response) is no longer available.⁵

Frequently outside observers have attached such labels as courage, stoicism, or self-denial to some behaviors. If these do not have conflicting contingencies associated with execution, then the phenomenon falls outside the definition of beta-control. Many a war "hero" has repudiated the intentions attributed to him regarding his behavior under fire. Some have even declined the honors (i.e., social reinforcement) bestowed upon them for their acts of heroism. General attributions of beta-control to the addict in withdrawal treatment, the alcoholic in hospital confinement or the obedient child in the principal's office are usually not appropriate on the basis of the present definition. The critical element in beta-control is the person's actions toward altering a strong externally determined pattern of present behavior to meet a criterion, often hidden from the observer, that the person has previously set.

BETA-CONTROL IN BEHAVIOR THERAPY

We are now prepared to consider the process of changing self-generated response-probability in a clinical setting. Some of the difficulties surrounding the clinical use of beta-control are easily inferred from the preceding discussion. For example, the clinician must take special care to

⁵The repeated findings of temporary reduction in smoking with a wide variety of therapeutic techniques and the subsequent increases on follow-ups attest to the short-term nature of effects of external (alpha) control procedures (e.g., Bernstein, 1969; Hunt, 1970; Keutzer, Lichtenstein, & Mees, 1968).

analyze fully the relative contributions of alpha and beta variables to the client's behavior. For some maladaptive behavior patterns—such as alcohol or drug addiction—it may be necessary to induce first a contingency conflict, (i.e., to equalize positive and negative consequences of the behavior) rather than to assume such motivational underpinnings. Powerful external reinforcers (alpha variables) may then have to be used to strengthen the client's capacities for initiating beta-control. And, differences in the client's characteristic use of positive and negative self-reinforcement in supporting a self-change program must be taken into account.

Additionally, when *contractual negotiation* is seen as a component of beta-control (Kanfer & Karoly, 1972), it becomes clear that a therapist cannot simply teach his client a set of techniques for behavioral changes. Whether the client makes use of this training will depend on the effects of the same variables that influence all interpersonal negotiations. Interest in contractual arrangements in the therapeutic setting is evident in the analytic model as classically viewed (Freud, 1913; Menninger, 1958), in Sullivan's (1953) interpersonal model, in a group-analytic model (Berne, 1961, 1964), and in a dyadic-interactional model based upon an integration of Sullivanian concepts with Thibaut and Kelley's (1959) social psychology (Carson, 1969). The contract is familiar within a behavioral paradigm (e.g., Pratt & Tooley, 1964; Sulzer, 1962) and has recently been proposed as a fundamental adjunct in an encounter or sensitivity-group context (Egan, 1970). In the present theoretical model the contract occupies a special position, reflecting the intention statement or performance promise, a central component in the beta-control process. It is deliberately used as a means for expediting change, and its role is scrutinized in a behavioral analysis.

Remaining within our expanded behavioral model, we can ask several related questions: What are the relevant antecedents of contract making (i.e., the uttering of *performance promises*, *commitments*, or *intention statements*)? Under what conditions are contract or intention statements *not* likely to be made? And, importantly, under what conditions are intention statements likely to lead to action, i.e., matching of behavior to stated intentions?

THE PROMISE AS VERBAL OPERANT

When an individual makes a contract covertly or with another person (his therapist), the *ad hoc* standard or performance promise emerges as a statement of intention. Such statements may be viewed as verbal operants. The dangers inherent in attempting to infer intentions from actions have been widely discussed; yet, less obvious are the various tactical er-

rors that can result from ignoring the discriminative and reinforcement nexus within which overt and covert statements of intention may occur. The intention statement may be one of the critical components of a beta-control sequence, *or* it may be a terminal link in an alpha-controlled chain leading to a courageous-appearing declaration and social approval. Therefore, it behooves us to examine the alpha and beta variables that determine the probability of an individual's emission of a verbal operant of the *contract class*.

In the present paper, we can only list some of the factors which we have elsewhere suggested as *promoting intention-statement making* (cf., Kanfer & Karoly, 1972). Among others, they include the following conditions:

- a. When an individual responds to cues in his environment ("external" or "internal") that signal the conflictful nature of a current behavior pattern.
- b. When a person is suffering from the aversive effects of the behavior to be controlled.
- c. When the individual is satiated with respect to the undesirable behavior.
- d. When contingent social approval for intention-statements is easily available.

Even in the absence of conditions conducive to intention statement making, an individual with a positive history for their emission can be expected to show a relatively high probability of employing them. We have suggested several conditions that would *lower the probability of verbal intention operants*. These may be employed for therapeutic purposes. They include settings in which:

- a. The probability of social disapproval for intention statements of a specific sort is high.
- b. The probability of execution of the controlling response is generally known to be low.
- c. The general expectancy for ultimate reinforcement (payoff) for executing the controlling response is low.
- d. The person has a history of prior unsuccessful execution attempts and has developed what has been termed "learned helplessness" (Seligman, 1968).
- e. Strong punishment is attached to the possible nonfulfillment (non-execution) of the intent.

Finally, we have speculated on the conditions producing the all-important link between verbal operants and behavioral execution, i.e., the

factors that facilitate the matching of actions to words. As we have pointed to the reasonableness of withholding gratuitous admiration for individuals who might not, in fact, be exercising beta-control, we have highlighted the absolute clinical *necessity* of refraining from rewarding performance promises lest we support "empty" verbalizations in lieu of the beneficial behavioral alterations implied by the beta-control sequence.

The probability of *initiating behavior that leads to fulfillment of a contract* can be viewed as a complex function of the following additional factors:

a. The explicitness or clarity of the contract (emphasizing the need for specifying the desired outcome in some detail, providing performance standards for facilitating self-evaluation, delineating consequences, and outlining methods for the achievement of the desired goal).

b. The mutuality of control in the helping relationship (i.e., relating to the therapist's ability to uphold "his end" of the contract via the judicious use of alpha-control).

c. The persistence of the aversive consequences of the undesirable behavior beyond the time at which the intention operant is emitted.

d. The individual's skill and experience in making the instrumental responses required for contract execution.

e. The continuous use of (and/or training in) self-monitoring that permits behavioral gains or losses to have their maximal motivational impact.

f. The past experience as a basis for the expectation of success or failure of a beta-control program.

We have suggested that the clinician be on guard against reinforcing performance promises if they undercut behavioral fulfillment and provide support for behaviors that obviate beta-control. We have also focused on the seemingly paradoxical suggestion that in order to assist a client in achieving beta-control, a therapist must initially exercise a large amount of social (alpha) control over his client's actions and choices.

IMPLICATIONS AND RESEARCH DIRECTIONS

Our efforts at analysis reflect a tentative set of hypotheses about the manner in which the phenomena subsumed under labels of will power, freedom of choice or similar alleged mental processes may be broken down into practical components and tested empirically. The components are integrated into an expanded S-R formulation (a closed-loop approach) and yet, the phenomena typically attributed to the intrapsychic domain are not ignored or sidestepped. Thus, the difficulty in accounting for all human behavior in terms of immediately apparent alpha variables does not force us to go to "cognitive" theory which postulates different

mechanisms for private than for overt behaviors. Instead, the basic behavioral analysis (Skinner, 1953) can be extended to cover both public and private events.

Our analysis has suggested that the term self-control, originating in a dualistic image of man, does not offer a useful conceptualization of the phenomena it purports to describe. Recent behavioral approaches to other personality variables (e.g., dependency, aggression) suggests that a more fruitful attack would be to investigate the events in question by sorting out the component controlling variables, on the basis of their source. As the combination of immediate external influences and self-generated stimuli shifts toward the former, alpha-control describes the dominant sources of influence. With a shift toward self-generated processes beta-control takes on predominance. In human behavior, the occurrence of either extreme as a pure case is probably rare and surely limited in time. What should be emphasized is that at any moment the learning history (a product of alpha *and* beta variables) may be more or less influential than the controlling features of the immediate environment. When the degree of alpha control is reduced or the subject is given opportunity to exercise control over his behavior, changes in the controlled behavior have been reported (Kanfer & Seidner, 1972).

Several current research projects are available that test the various facets of the contract concept as related to beta-control. In our laboratories, in a recent master's thesis (1972), Cox has shown that the degree of explicitness of a contract and mutuality (or nonmutuality) of its observance can influence individuals' tolerance of a noxious situation (a cold pressor test). Marlatt and Kaplan (1972) examined a very common variety of intention statement, the New Year's resolution. They found that broken resolutions were more often *reported* within relatively specific categories than the more global (inexplicit) resolutions. Resolutions that are more difficult to *verify* externally tend to be more freely reported as successfully carried out. There is potentially less risk and greater immediate payoff involved in vowing to "be more in tune with the world" than in resolving to give up smoking today, or to lose 27 pounds in 10 weeks.

The present framework suggests that there is an important functional link between verbalization of intentions and motor responses. Theoretically, verbal mediation has been integrated with self-direction in the work of Bem (1967), Kohlberg, Yaeger, and Hjertholm (1968), Luria (1961), Piaget (1926), and others. Recently efforts at training children to modify ineffective (usually impulsive) behavior patterns via various self-instructional modes have demonstrated the utility of the present line of reasoning (cf., Hartig & Kanfer, 1972; Meichenbaum & Goodman, 1969a,b; 1971; Palkes, Stewart, & Kahana, 1968). Further research in the

training of children and adults (with or without clinical problems) in the use of beta-control techniques and in the transfer of alpha- to beta-control is also needed (cf., Mahoney, 1970, for a discussion of methodological issues in the experimental analyses of covert processes).

Of importance, in light of the present emphasis, is continued research regarding the factors influencing the negotiation of contracts in interpersonal settings, especially the genesis of commitments. Contract psychology gives renewed importance to the patient-therapist relationship. Further, the examination of individual differences in such areas as skill in exercising beta-control, cross-situational beta-control, goal (standard) setting, self-monitoring, self-reinforcement (and self-punishment) patterns, and interpersonal styles would be helpful in explicating the beta-control process. Hopefully, investigators will find some new answers to old problems, and a more precise framework upon which to hang old answers.

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